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# RESEARCH ISSUES REEMPHASIZED BY 1977 FOOD POLICY LEGISLATION

By J. B. Penn and William T. Boehm<sup>1</sup>

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## INTRODUCTION

New agricultural and food legislation became effective on September 29, 1977, when the President signed S. 275, the "Food and Agriculture Act of 1977." This act, the most comprehensive of all the so-called "farm bills" since the thirties, treats many subjects: farm commodity programs, grain reserves, domestic food assistance, research (agricultural and human nutrition) and education, conservation, wheat foods promotion, grain inspection, advisory committees, and several other areas. This "omnibus bill" could (under certain conditions) involve Federal budget outlays exceeding \$12 billion annually, or near \$50 billion for the life of the legislation.

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- New food and agricultural legislation became effective on September 29, 1977. The provisions of the bill may be used to help establish a research agenda for policy analysts. This article highlights what appear to be the most important research issues. Specifically discussed are the payment limitation, economic and natural disaster risk protection, the flexible loan level and international grain trading, the current plantings concept and production control, grain reserves, and domestic and foreign food assistance.
  - Keywords: Food policy, research agenda, legislation.
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Providing broad guidelines for national food and agricultural policy for the next 4 years, it sets forces in motion that may significantly affect the food and fiber system for years to come.

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The bill emerged as a product of the political process; its provisions are based largely on compromise. As the various interest groups worked to achieve their goals, they traded support with each other, giving ground on some issues to effect gains on others.<sup>2</sup> The issues debated most intensely were those currently evident or topical. As always, there was little *explicit* consideration of the likely impact of new programs operating in conjunction with existing programs, nor with the longer term consequences of such programs.

The policy decisionmaking process itself has implications for research. *Once set in motion*, the process is inherently not conducive to incorporating to any great extent the relevant economic information. Such information must, therefore, be available before the decision process begins if this information is to affect the compromises that inevitably come. Prior analysis is essential to influence subsequent legislative initiatives—not influence in terms of any particular outcome, but influence in the sense of improving the quality of the decision.

The purpose of this article is to highlight some of the major provisions of the new legislation, emphasizing those which in the authors' view have potentially significant longer term implications for the food and fiber system and/or those which represent significant departures from the previous law. We do not intend for it to be a description of the bill *per se*. This task has already been done by other authors (10). Rather this article suggests a broad research agenda for policy, now that the basic architecture of the programs has been determined for the next 4 years. The underlying concern of that agenda is, of course, the analysis of implied longer run impacts of policy decisions taken to "solve" immediate, shortrun problems. The provisions selected and treated, roughly in the order they appear in the bill, include:

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<sup>2</sup> A recent paper by Bonnen (1) contains an excellent treatment of the policy process for agriculture and food.

Note: Italicized numbers in parentheses refer to items in References at the end of this article.



- The payment limitation
- Economic and natural disaster risk protection
- The flexible loan level and international grain trading
- The current plantings concept and production control
- Grain reserves
- Domestic and foreign food assistance

## THE PAYMENT LIMITATION

The impetus for a payment limitation provision in agricultural legislation grew out of the events in the sixties when the income transfers to the farm sector were relatively large, had seemingly become chronic, and few prospects were emerging for solutions that would make the transfers unnecessary.

The eventual adoption of a \$55,000 limit in the Agriculture Act of 1970 was perhaps significant only in that to many it signaled tangible evidence of the substantial erosion of the influence of the farm bloc.<sup>3</sup> It had been suggested for some time that the reapportionment of the Congress in 1960 (and 1970), the exodus of several long-time and powerful Southern legislators, and the growing involvement of the "agribusiness" interests in the process were all tending to erode the once powerful influence of rural producers (1).

The limitation was continued but lowered to \$20,000 in the Agriculture and Consumer Protection Act of 1973. Both disaster and income support (deficiency) payments came under the limit, but the law was administered such that a producer would not receive both types of payment on the *same* production. Of course, because of market conditions, no deficiency payments were made under provisions of the 1973 act.

There have been few indepth studies (14) of the economic impact of the payment limitation during 1971-73 when the programs were in full operation (as opposed to 1973-76 when market conditions obviated the need for programs). The number of producers affected was quite small and, as a result, "savings" in Treasury outlays were probably quite small. The approximated numerical relationship between reductions in budget outlays from the limit and total payment outlays (roughly based on 1972 data) is shown in figure 1. For example, using the 1972 data in figure 1, and assuming deficiency payments of \$4 billion, the \$20,000 payment limitation would reduce budget outlays by only about \$0.16 billion. The reduction is relatively small whatever the limit, but the lower the limit, of course, the greater the reduction.

<sup>3</sup> A study of the 1971 programs by the General Accounting Office (GAO) concluded that the limit resulted in "no significant reduction" in Government expenditures in that year. The GAO report noted a USDA study which estimated the reduction to be only \$2.2 million in 1971, when payments totaled \$2.75 billion for the wheat, feed grain, and cotton programs (16).

The new bill increased the limit to \$40,000 in 1978 and \$45,000 in 1979 for wheat, feed grain, and upland cotton producers. Payments to rice producers are limited

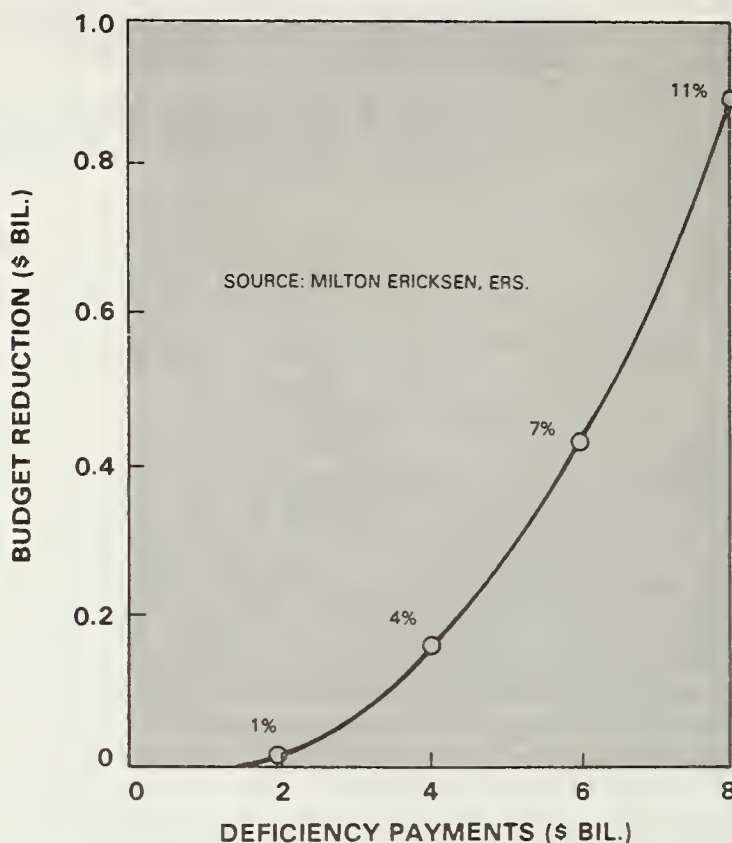


FIGURE 1. BUDGET REDUCTION FROM A \$20,000 PAYMENT LIMIT (1972 DATA)

to \$52,500 in 1978 and \$50,000 in 1979. For 1980 and 1981, a limit of \$50,000 is applicable to payments made under the feed grain, wheat, upland cotton, and rice programs. Disaster payments, certain resource adjustments (not land diversion payments), and public access for recreation are exempt from the limitation as are payments under the extra-long staple cotton, sugar, and wool programs.<sup>4</sup> Receipts from Commodity Credit Corporation (CCC) loans and purchases also remain exempt. Thus, the payment limit really applies only to deficiency and land diversion payments.

The payment limit, given the structure of the price support loan and payments program in the new bill, raises questions of equity among commodity producers. To illustrate, the 1978 target price for wheat is \$3.00 (\$3.05 if the crop is smaller than 1.8 billion bushels) and it is \$2.10 for corn. These levels cover the same proportion of total cost for each crop. Thus, \$3.00 wheat

<sup>4</sup> Any increased deficiency payments to farmers resulting from an administrative decrease in the loan level to maintain competitiveness in world markets (treated in a subsequent section) are exempt from the limits.



equals \$2.10 corn on the production side, and a producer should be indifferent between the two as a choice of production enterprise, *ceteris paribus*. But the loan level for corn is \$2.00 (maximum potential payment of \$0.10) and for wheat, \$2.35 (maximum potential payment of \$0.65). Since "loan and purchase" proceeds are *not* subject to the limit as are payments, corn producers are implicitly afforded more (as a proportion of unit cost of production) price and income support *not subject to the limit* than wheat producers.

The practical importance of the limit, if not for budget savings, may perhaps be as a bellwether of the mood of the Congress (and the nonfarm public) towards agriculture and the food system. When initially established, the limit supposedly reflected the public's distaste for large payments being made to a small number of big producers. The willingness of the Congress to raise the limit in 1977, to levels well above that which would have accounted for inflation since 1973 (\$27,000), would perhaps suggest less current concern with that issue.

The increased limit in the new bill suggests this provision will likely continue to have little effect on either program operations or Treasury outlays.<sup>5</sup> However, it could affect firm organization if the affected producers attempt to devise means to circumvent the limit. However, if the limitation does not *effectively* limit the amount of payments to the "larger" producers, then perhaps alternative means of achieving the original objective should be explored. The point is that implications of the payment limitation provision are unclear without further research.

## ECONOMIC AND NATURAL DISASTER RISK PROTECTION

The Agriculture and Consumer Protection Act of 1973 initiated a target price-direct payments scheme designed to effect income transfers to the farm sector *inversely* with the market price. Target prices, established for the major program commodities beginning with the 1974 crop, were adjusted for changes in cost of production after accounting for productivity (yield) changes for the 1976 and 1977 crops.

The target price adjustments for changes in cost of production were based on changes in the index of prices paid for production items, interest, taxes, and wages

<sup>5</sup> Assuming a \$0.65 cent per bushel deficiency payment on wheat in 1978, over 61,500 bushels would be required to reach the limit. For a 30 bushel per acre yield, this would require 2,050 harvested acres. Of course, many farms may have more than one crop eligible for payments. While the payments for each crop may be less than the limit, the total will exceed the limit. Thus, determining maximum size of farms subject to limit is inappropriate except for illustration.

(PPI).<sup>6</sup> This index is a broadly based indicator of production expenses for the agricultural sector generally, not just for crop production. The target prices for each program crop were to be adjusted by the same percentage as the index, varying only by the extent of individual yield changes. Thus, the relationship of the target prices to cost of production for individual commodities could become distorted. For example, suppose one crop was a heavy user of fertilizer relative to another, and the price of fertilizer increased dramatically causing an increase in the index. Then, *all* target prices would be adjusted upward to reflect this increase, not just the one for the crop that is a heavy user of fertilizer and whose cost had increased. The fact that the index was not oriented specifically to crop production could also be regarded as a deficiency.

Thus, while the 1973 act moved agricultural crop support levels away from the concept of parity, it did so by adopting a rather crude, albeit the only available, cost of production measure. The 1973 act did, however, direct the Secretary of Agriculture to undertake cost studies and regularly report its estimates. By 1977, three such reports had been made (4, 5, 6).

Through use of the USDA estimates, the move to basing target prices on individual commodity production costs is completed in the 1977 act. The 1978 target prices are based (with minor exceptions) on the average of 1975 and 1976 *unit* costs of production.<sup>7</sup> The 1978 target prices, and loan levels, established by the act are shown in table 1.

From the established levels for 1978, adjustments are to be made using variable, machinery, and overhead cost components *only*. Changes in the management and land charges will *not* be considered in making the adjustment. Specifically,

$$PT(t+1) = PT(t) + \left( \frac{COST(t) + COST(t-1)}{2} \right) - \left( \frac{COST(t-1) + COST(t-2)}{2} \right)$$

where:

$PT(t)$  = target prices in year  $t$ , and  
 $COST(t)$  = sum of variable, machinery ownership, and general farm overhead cost components in year  $t$

<sup>6</sup> A detailed explanation and examples appear in (13).

<sup>7</sup> Cost of production is defined to include variable, machinery ownership, and general farm overhead cost components (as defined in the USDA studies) plus a return to management (7 percent of gross receipts) and to land (3.5 percent of current price).



This procedure is applicable to feed grains, wheat, cotton (the adjustment begins in 1978 with a \$0.52 per pound minimum and a \$0.51 minimum thereafter), and rice. (The target price for rice is determined in the same

Table 1.—Commodity target prices and loan levels for 1978

Commodity	Unit	Target price	Loan level
<i>Dollars per unit</i>			
Wheat <sup>1</sup>	Bu.	\$3.00/3.05	\$2.35
Corn	do.	2.10	2.00
Sorghum <sup>2</sup>	do.	2.22	1.90
Barley <sup>2</sup>	do.	2.25	1.63
Oats <sup>2</sup>	do.	None	1.03
Cotton <sup>3</sup>	Lb.	0.52	0.44
Rice <sup>4</sup>	Cwt.	8.45	6.34
Soybeans <sup>5</sup>	Bu.	(None)	(Discretionary)

<sup>1</sup> The target price is \$3.00 if the crop is larger than 1.8 billion bushels; \$3.05, otherwise. <sup>2</sup> A target price is mandated for sorghum but discretionary with the Secretary for barley and oats; all are to be set on the basis of the same cost of production components as for corn (preliminary estimates are shown—the actual estimates have not been announced). The loan level for these feed grains is to be set in relation to corn (preliminary estimates are shown). <sup>3</sup> The loan level is determined as the smaller of 85 percent of the preceding 4 marketing years' moving average spot market price for Strict Low Middling 1-1/16 inch upland cotton at average U.S. locations or 90 percent of the average adjusted price for the first 2 weeks of October of the 5 lowest priced growths of the growth quoted for Strict Middling 1-1/16 inch cotton, cif, Northern Europe—a projection is shown. <sup>4</sup> The rice loan level is increased by the same percentage as the target price except the Secretary has authority to reduce it as low as \$6.31 if needed for competitive world trade. The 1977 target price is to be adjusted for changes in the cost of production by the same procedure as used for the other crops to establish the 1978 target price. The estimates shown are projections for both the target price and loan levels. <sup>5</sup> The 1977 act mandates a price support loan for soybeans but the level is discretionary with the Secretary.

manner except the level for 1978 will be an adjustment from the 1977 target price which was established by formula in the Rice Production Act of 1975.)

While it appears that the 3 previous years' prices are being considered in making the target price adjustment, in fact, only prices in  $t$  and  $t-2$  make any real difference. The effect of the price in  $t-1$  may be cancelled algebraically.

While inclusion of the land component was somewhat avoided in the adjustment process (and the likely cost/price spiral), the economic implications of adopting this

approach are still unclear.<sup>8</sup> The cost of production concept was advanced in an attempt to minimize farm program influences on producer enterprise selection. Since the basic income support level for each crop reflects its estimated cost of production, producer decisions will theoretically be based on anticipated market price, thereby reducing the propensity to "farm the programs," rather than produce for the market. However, the cost of production approach has the same weakness as the parity concept and the PPI index—it is not a measure of value nor does it account for the role of demand in price determination.

Another departure from the past is that independent target price levels may be established for the minor feed grains (sorghum, barley, and oats) based on their cost of production. As a result, target prices for these crops may be higher (relative to corn) than in the past. The budget implications are obvious. Shifts in production patterns where the minor feed grains are grown could also be significant.

Two major questions related to economic impacts of the provisions in the new law come to mind:

- How do the 1978 price and income support levels compare to previous levels?
- What are the potential longer run impacts of using *national average* costs of production for individual crops as the basis for establishing the target prices?

### Price and Income Support Comparison

Brown (2 compared the total support level (price support loan plus price support payments) and loan level with cost of production for wheat and corn for 1955-76.<sup>9</sup> This comparison and the corresponding estimates for 1977-78 are shown in table 2.

From 1955 through the early sixties, only the price support loan was available to producers. Brown's calculations indicate that the loan was somewhat above the total cost of production (as defined) for wheat and equivalent for corn.

<sup>8</sup> The shift to individual commodity unit production costs will also highlight the difficulties with current cost concepts. Continuing attention to the improvement of the estimation procedures will also be required.

<sup>9</sup> Since consistent nationwide cost of production estimates were not available prior to 1974, such comparisons must involve "constructed" cost data for the historical period before that year. In this case, the 1974 cost estimates (excluding the land and management components) were "indexed backward" using the PPI. The historical management component was calculated at 7 percent of product price. The land charge is a "composite"—the weighted average of share rent, cash rent, and a return to owner-operated land valued at average acquisition price times the prevailing Federal Land Bank interest rate for new loans.



Table 2—Relation of total price support and loan level to cost of production (COP) for wheat and corn, 1955-76

Crop and period	Loan level as percentage of COP	Total support as percentage of COP
	<i>Percent</i>	
Wheat		
1955-63	119	119
1964-73	73	<sup>1</sup> 91
1973-76	48	<sup>2</sup> 60
1977	71	92
1978	67	90
Corn		
1955-62	100	100
1963-72	84	<sup>1</sup> 88
1973-76	45	55
1977	91	91
1978	86	91

<sup>1</sup> Not all wheat and corn production was eligible for price support payments—only that from the base or allotted acreage was eligible for both the price support loan and payment. If allowance is not made for the portion of the crop ineligible for payment and the portion compensating for required diversion, this percentage could be as high as 149 for wheat and 105 for corn. <sup>2</sup> 1974-76.

Source: Adapted from (2). Calculations for 1977 and 1978 are by the authors.

After 1963, the price support loan was augmented with various payment schemes for cooperating producers (those complying with the program provisions). The total support/cost of production comparison is thus not as straightforward because of the existence of allotments and bases (not all production was eligible for *both* the loan and payment). However, if the ineligible production is accounted for, the data suggest that the total support was about 91 percent of production cost for wheat and 88 percent for corn, a slight reduction from the earlier period. The reduction in the loan as a proportion of cost of production is to be expected with the institution of direct payments. Payments allowed income maintenance to producers while allowing the loan level to be kept relatively low so as to minimize the interference with production and consumption adjustments.

The period 1973-76, one of atypical world agricultural market conditions, makes comparison meaningless. The market prices for wheat and corn were far above the supports making the level of support irrelevant.

The deteriorating economic conditions for the 1977 crop prompted the Congress to revise the target price levels resulting from the formula under the 1973 act. The Administration responded by revising the previously announced loan levels for 1977. The revised levels for

wheat and corn are 71 percent and 91 percent, respectively, of cost of production and only slightly lower for 1978. The total support (target price) for both is about 90 percent for both years. On balance, this admittedly crude comparison suggests that the price support and total support levels in the new act are not significantly out of line with historical levels relative to cost of production.

## The Impacts of Cost-Based Target Prices

The second question posed above is by far the most interesting and, from a research standpoint, perhaps the most important. It involves a determination of how the benefits of the commodity program subsidies are distributed and the implications of that distribution for structural change.

One of the most widely publicized (and emotional) food policy issues is the structure of the farming sector. This issue is often cast as a concern for the demise of the "family farm," the encroachment of "agribusiness," concern for the "small farmer," or increased vertical integration. Ironically, little has been done to analyze the structural impacts of the price and income policies<sup>10</sup> which treat farmers as either a monolithic entity or a set of homogeneous commodity groups. The income support/target price payments under the 1977 act will be based on *national average costs of production*. However, all farmers, in reality, face different actual costs of production. One important research question is, then, who are the "high cost" and "low cost" producers?

The 1974 Census of Agriculture data support the oft-quoted statement that a very small proportion of the total number (2.5 million) of farms generate a very large proportion of total agricultural output. The 19 percent of farms comprising classes 1a and 1b produce over 78

<sup>10</sup> In title I, section 102 of the 1977 Act, the Congress addressed the family farm issue by reaffirming "... the historical policy of the United States to foster and encourage the family farm system of agriculture in this country." It further directed the Secretary of Agriculture to report on the status of the family farm annually submitting "... a written report containing current information on trends in family farm operation and comprehensive national and State-by-State data on non-family farm operations in the United States." The Secretary was also directed to include "... (1) information on how existing agricultural and agriculture-related programs are being administered to enhance and strengthen the family farm system of agriculture in the United States, (2) an assessment of how Federal laws may encourage the growth of non-family farm operations, and (3) such other information as the Secretary deems appropriate or determines would aid Congress in protecting preserving, and strengthening the family farm system of agriculture in the United States." The Congress did not, however, offer guidance as to what constitutes a "family farm," a particularly controversial point in past research endeavors (9).



percent of the Nation's food and fiber (table 3).<sup>11</sup> These data suggest that the farms could realistically be placed in three categories: (1) the small farms, classes IV-VI, largest in number (55 percent of the total) but producing only 5 percent of the total output; (2) a middle group, classes II and III, fewer in number (26 percent of the total) and producing 17 percent of total output; and (3) a large farm group (classes 1a and 1b), much fewer in number but producing the bulk of total output.

The USDA study of the 1974 cost of production (4) reported not only average costs but also *distribution* of costs by proportion of production. These cumulative distributions for both quantity of production and number of wheat and corn producers appear in figures 2 and 3. (They have been revised to reflect 1977 projected costs reported in (6)).

The figures reflect the wide distribution in costs across producers and emphasize that there is no single cost of production applicable to all. About 57 percent of the total wheat production and 56 percent of total corn production in 1977 was produced *at or below* the national average cost of production.<sup>12</sup> Also, they illustrate that 40 percent of all wheat farms and 45 percent of all corn farms produced *at or below* the national average cost of production. Overall, well over half of all production is *below* the national average cost but over

<sup>11</sup> It is recognized that the skewness in *value* of output will exceed skewness in quantities produced because of the relatively high prices of 1974 used in valuing output. However, the point remains valid.

<sup>12</sup> The total cost of production is defined as including the variable, machinery ownership, overhead, management and land components, with the land charge defined as the "composite" (see footnote 9).

three-fifths of all producers are producing *above* the national cost.

The research question now becomes one of identification—just who are the producers above and below the national average costs (which are used to set the income support levels)? Are producers of that production *below* the national average the larger producers as reported in the census data (table 3)? Are producers of that production *above* the national average cost of production the smaller producers?

Economy-of-size studies for agricultural firms have indicated that the firm's average total cost curve at first declines relatively rapidly as firm size increases and then flattens.<sup>13</sup> Such studies suggest that the lower cost firms are *indeed* the larger firms. The higher cost firms would be those in classes III-VI (table 3). If these rather loose size/cost relationships are correct, target prices based on national average cost of production would be expected to provide a windfall subsidy to the larger, more efficient firms who can produce below the national average. And such target prices may not provide enough assistance to the medium-sized and small firms to enable them to remain economically viable. Treating all wheat producers and all corn producers as an amorphous group would thus fail to effectively transfer income support to those most in need. Medium-sized and small producers with relatively higher costs of production (the largest *number* of producers) could logically be expected to view the target prices in the bill as inadequate for them.<sup>14</sup>

Again, if the above hypotheses are true, it would

<sup>13</sup> See (12) for a critique of economies-of-size studies.

<sup>14</sup> This may be a partial explanation for the widely publicized farmer strikes which occurred late in 1977.

Table 3—Farms by size category and contribution to total output

Size (sales class)	Farms	Percentage of total	Cumulative percent	Value of products sold	Percentage of total	Cumulative percent
	<i>Number</i>	<i>Percent</i>	<i>Percent</i>	<i>Thousands</i>	<i>Percent</i>	<i>Percent</i>
1a (\$100,000 and above)	152,599	6.2	6.2	43,699,424	53.6	53.6
1b (\$40,000-99,999)	324,310	13.2	19.4	20,071,570	24.6	78.2
II (\$20,000-39,999)	321,771	12.1	31.5	9,246,796	11.3	89.5
III (\$10,000-19,999)	310,011	12.6	44.1	4,460,239	5.5	95.0
IV (\$5,000-9,999)	296,393	12.0	56.1	2,138,392	2.6	97.6
V (\$2,500-4,999)	289,983	11.8	67.9	981,880	1.2	98.0
VI (Less than \$2,000)	786,838	31.2	99.1	736,244	0.9	99.7
Other	2,238	0.1	100.0	235,800	0.3	100.0
Total	2,466,143	100.0		81,570,300	100.0	

Source: Unpublished, preliminary data, 1974 Census of Agriculture. The numbers shown are for the standard definition of the class VI farm. For comparison, the number of farms in this class by the new definition is 616,728, and the value of sales is \$696,944,000.

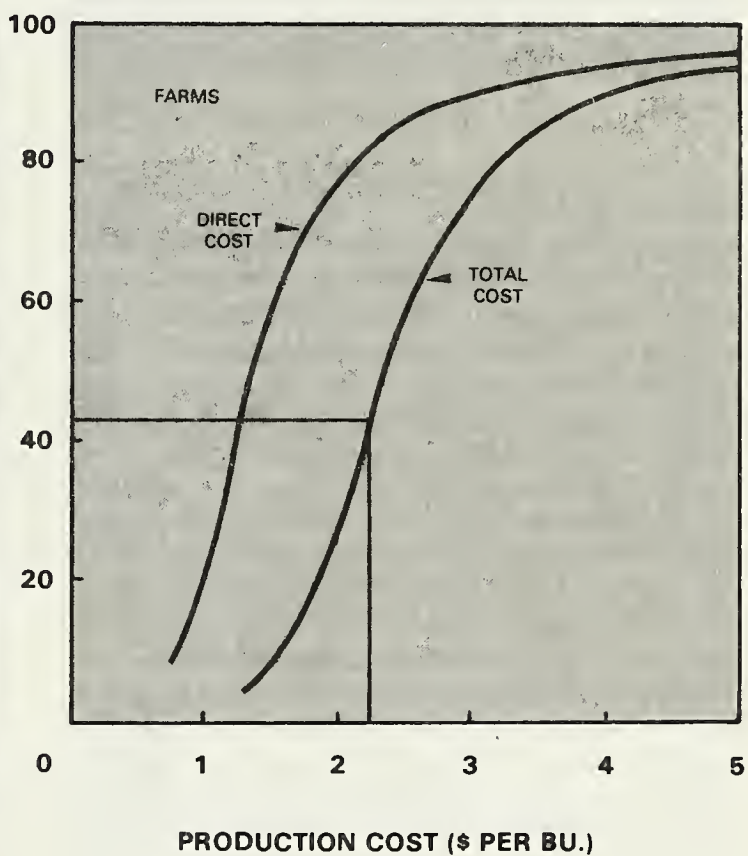
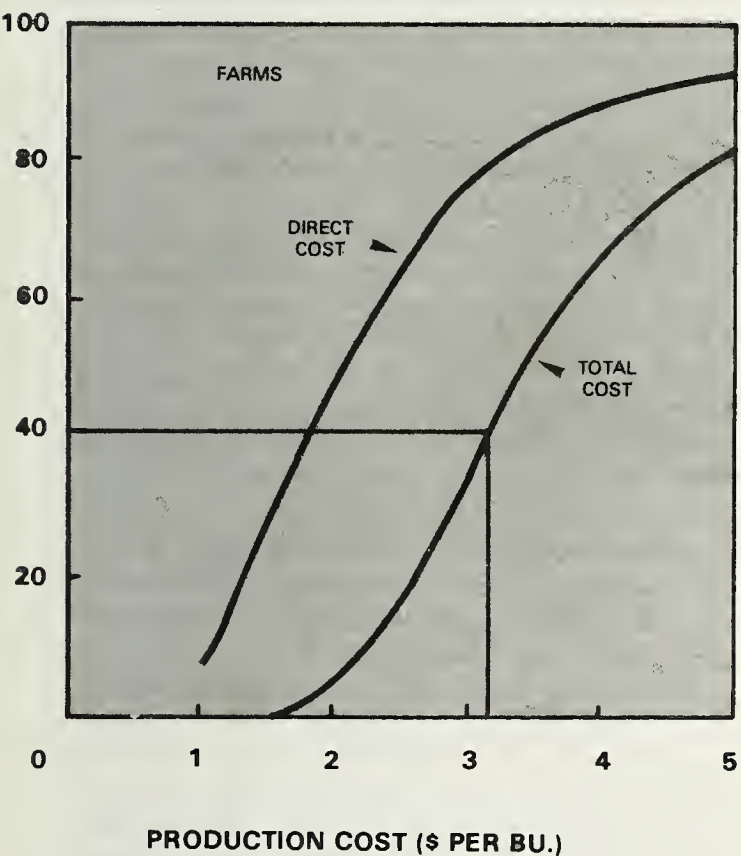
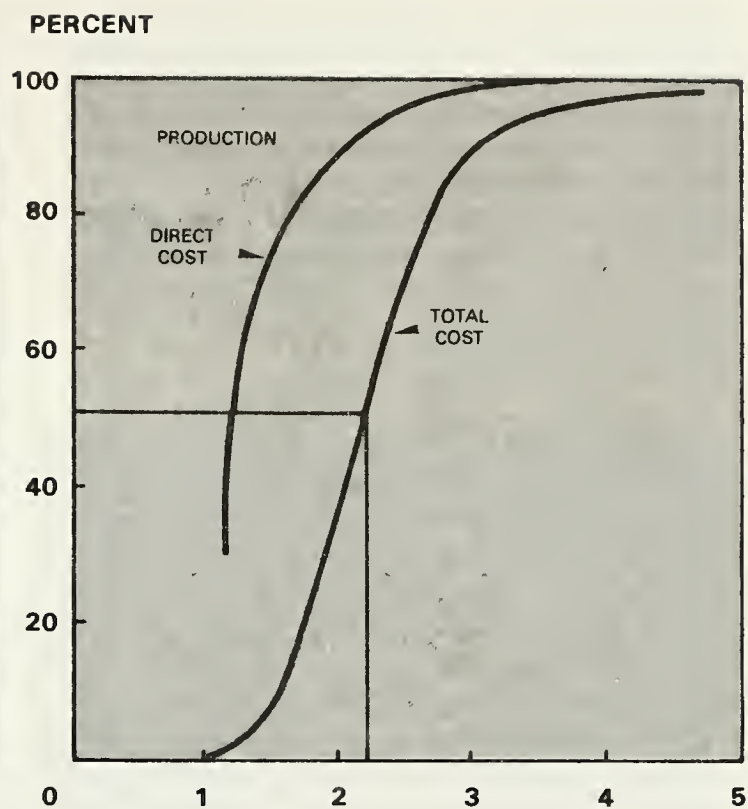
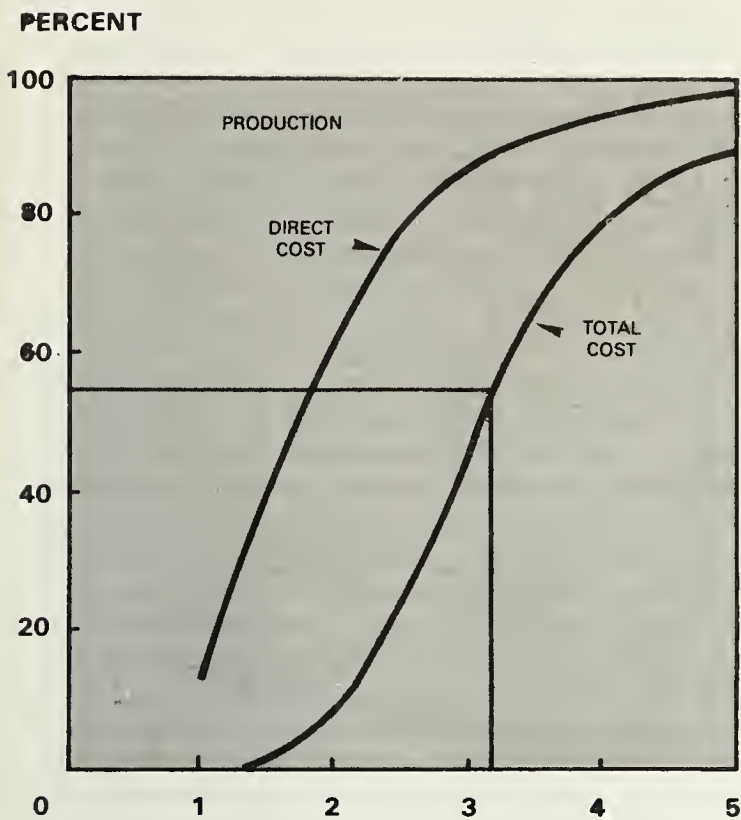


FIGURE 2. CUMULATIVE DISTRIBUTIONS OF WHEAT PRODUCTION AND FARMS BY COST OF PRODUCTION, UNITED STATES 1977

FIGURE 3. CUMULATIVE DISTRIBUTIONS OF CORN PRODUCTION AND FARMS BY COST OF PRODUCTION, UNITED STATES 1977



appear plausible that windfall gains of the large producers would then be capitalized into land values, resulting in increasing land prices until the entire windfall is bid into the price. A recent paper by Doering (8) presents some estimates of returns to equity capital by sales class which reinforces the hypothesis that the larger farms are in the position to bid up asset values (table 4). Thus, an increasingly smaller number of very large farms could emerge and ownership of the Nation's farmland could gravitate to the hands of a smaller and smaller number of people.

Table 4.—Returns to equity capital by size of farm

Farm size (sales class)	Rate of return to equity capital
	Percent
Ia (over \$100,000)	6.9
Ib (\$40,000-99,999)	5.9
II (\$20,000-39,999)	4.4
III (\$10,000-19,999)	2.9
IV (\$5,000-9,999)	—0.1
V (\$2,500-4,999)	—6.5
VI (Less than \$2,500)	—6.1
All farms	2.1

Source: (8), based on data from 1970 Census Survey of Farm Finance.

However, other structural changes could occur; risk and other constraints could affect the operating unit differently from the ownership unit, and dispersed ownership but combined large operating units could result. The price and income support programs, the current tax laws governing treatment of capital gains and intergenerational transfers, environmental regulations, the disaster assistance provisions in the new bill (discussed below), and so on, all may combine to give a *cumulative* result as suggested above or one totally unsuspected. The essential point is that we really know very little about the combined effect of all such policies and programs on the structure of the farming sector.

A final thought on the cost/size relationship. If the firm cost curve does decline rapidly and flattens, suggesting that increases beyond a "medium" size do not result in further economies, why have farm sizes continued to increase over time? While no more "profit" per dollar of sales may be realized beyond a certain point (size), more "profit" in total is realized as the total volume of sales increases. Hence, the continued pressure to expand.

The hypothesized absence of further economies beyond a certain size (the "family farm size"?) also has important policy implications. If a "family farm" structure is preferred by the body politic and this size does

occur at the point (at least) where no further efficiencies are able to be realized, then the structure argument is *not* continued economic efficiency gains (reflected in lower food costs to consumers) versus other social goals. This suggests that if a "family farm" structure is the real policy objective, an explicit *structures policy* rather than a "shotgun" price and income policy approach may have merit. This issue deserves our research attention.

In addition to target price supports, the 1973 act initiated a payments program to help shield producers of major program crops from the risk of natural disasters. The program was modified in the 1977 act and extended for 2 years, through 1978 and 1979. The modified program provides prevented plantings and low yield coverage, the amounts being based on target prices (which are based on cost of production). A bill currently pending in the House (H.R. 7111), would subsume the disaster payments and provide all-crop all-risk insurance protection for farmers. Additionally, the Senate Committee on Agriculture, Nutrition, and Forestry has announced plans to hold major hearings in the next session of the Congress to explore development of a similar program.

The current program and the obvious inclination of the Congress to continue this free or heavily subsidized producer protection means that a significant portion of the total risk in farming is being shifted to society collectively. Thus, through the target price-deficiency payments program and the disaster (or subsidized insurance) programs, society has collectively assumed a very large portion of the risk to farmers from *both economic and natural disasters*. "Average" producers are insured against "going broke" from either of these risks, since the effects of both disasters relate directly to some proportion of the cost of production.

This inclusive risk protection could have significant longer term structural implications. Both economic and natural disaster protection affect the availability of capital (borrowing capacity), the rate of farmer exit (hence entry), the minimum rates of return to equity capital, efficient resource allocation, and so on. Little is known about the *cumulative* impacts of these provisions over the longer term.

## FLEXIBLE LOAN LEVELS AND INTERNATIONAL GRAIN TRADING

One of the most significant features of the price support-loan programs was the adoption of a provision proscribing downward adjustment of the loan levels. The act provides that whenever the market price in the preceding year is no more than 5 percent above the loan level, the Secretary may reduce the loan to maintain the competitive position of the U.S. grain exports in world markets. The reduction is limited to 10 percent in 1 year. In no event may loans be reduced below \$1.75 for corn and \$2.00 for wheat. Also, in any year when the average price exceeds the loan by 5 percent, the subsequent-year



loan levels “snapback” to their statutory minimums. Although the 105-percent rule is not applicable, the rice loan may also be reduced, but to no lower than \$6.31.

The adoption of this provision clearly resulted from widespread recognition of the importance of world trade to U.S. commercial agriculture. While exercising this authority will be particularly difficult for the Secretary, considering domestic farm sector political pressures, it does provide a mechanism which can be used to avoid the chronic accumulation of grain stocks.<sup>15</sup>

Inclusion of this provision also points up the need for serious study of U.S. trading practices in the international grain markets. Serious allegations have been made about the apparent concentration of U.S. grain exports among only five firms. Yet a recent study suggests that these companies operate no differently than if a large number of competitive firms were involved (3).

Some argue that our trading policy has been to maximize the quantity of exports rather than their revenues. A suggestion occasionally advanced is that rather than lower the wheat loan level to remain competitive with the other major exporters, we should tacitly agree with them to hold our domestic support level at the world market price or increase it in concert with the other exporters (see 11, for the most recent discussion). The argument has been that if these countries supply over two-thirds of the grain in world trade, they should at least attempt to recover internal cost of production. While such a policy would permit us to explicitly consider revenue rather than quantity maximization in our international grain trade policy, it would appear to make us vulnerable in other areas. For example, the U.S. Government has been highly critical of the oil producing nations for forming OPEC and artificially increasing prices. Formation of a wheat exporters group (OWEC) to collude on price would appear no different.

The larger issue, of course, is the form of our grain marketing system. While ours is “open” and competitive, most other nations with which we deal in international agricultural products markets have State trading organizations. Some people allege that this places the United States at a competitive disadvantage. Japanese consumers, for example, pay import taxes on wheat purchased by their State trading organization. The price to its domestic users is thus the cost of the product, transport charges, and the import tax. Some people have alleged that the State trading firms may actually realize more for the wheat than do U.S. farmers and that increased product prices would enable U.S. farmers to capture some of that differential.

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<sup>15</sup> When this provision is used, the Secretary must ensure that the total returns to producers (loan outlays or market receipts plus payments) are not reduced. The target price payment may be increased if necessary to accomplish this. Preliminary analysis suggests that decreased outlays from reducing the loan level would be offset near dollar-for-dollar by the increased payments resulting from the wider target price-loan level differential.

As a minimum, we need more research evidence on just how responsive export sales are to “price”, given the institutional arrangements actually existing in international grain markets. Related questions also surface, such as to the role of international grain agreements, other commodity agreements, and bilateral, and multi-lateral trade agreements in the total U.S. marketing system.

## THE CURRENT PLANTINGS CONCEPT AND PRODUCTION CONTROL

The new act provides that program compliance and benefit disbursement are to be based upon current plantings, rather than on acreage allotments determined from plantings in a historical base period. There was general agreement during debate on the bill that the existing allotments were out of date and no longer reflected current production patterns. Producers’ response to market price signals and the general absence of programs (and controls) since 1973 resulted in significant shifts in the geographic location of production. Thus, requiring compliance and distributing benefits based on the antiquated allotments, some of which were established as long as a quarter-century ago, would have been inequitable. The efficiency of the commodity programs would also have been impaired.

Further, one of the most undesirable features of past programs was that the allotments tended to become capitalized—to take on a value in and of themselves. In effect, therefore, they represented a grant from the Government to the allotment holder. Removing the allotments eliminates this aspect from the commodity programs, and using current plantings prevents this capitalization from recurring in the same manner, although the total value capitalized may not be any less.

The elimination of allotments (except for rice) was a bold step politically, made easier by the economic conditions of the past few years. This step could serve as a precedent or at least bring the allotment system for the remaining commodities—tobacco, peanuts, extra long staple cotton, and rice—under greater scrutiny. Perhaps even further reexamination of the peanut and rice programs will occur.

The implications of using the current plantings concept are uncertain. Some changes in production patterns will likely occur, but most should be in response to market conditions and not artificially influenced by the programs. Also, with all producers now able to plant any program crop and be eligible for the price and income supports, some adjustments may occur in land values in certain areas of the country.

Authority for control of production through the withholding of cropland from production was continued in the bill, with few but important changes. The set aside is to be determined from *current-year plantings* rather



than allotments. Also, summer fallow acreage no longer qualifies for inclusion, and the Secretary may require as a condition of eligibility for loans, purchases, and payments that the acreage "normally" planted to crops be reduced by the amount set aside. (A "normal" cropping acreage based on 1977 plantings, adjusted for abnormalities, is to be assigned by the Secretary to each farm.) Thus grassland and pasture land cannot be put into cultivation after cropland has been set aside and total acreage cropped cannot be expanded. The requirement that set-aside land be devoted to conserving uses was continued.

Attempts to make the provisions more effective in controlling production than in past programs (to reduce the "slippage") have been made.<sup>16</sup> The exclusion of summer fallow acreage has implications for the Plains States, and the constraint on total program crop acreage is also potentially significant. The acreage part of the slippage may well be reduced and only productivity and other nonacreage sources of slippage remain. As a result, livestock production could be affected if some of the marginal acres brought into production since 1972 are used for set aside and then perhaps permanently returned to grass and pasture. An interesting question also concerns crop yields. Will yields of major crops again return to trend levels prevailing before the early seventies if set asides are used for several consecutive years?

## GRAIN RESERVES

The new bill includes several provisions relating to grain reserves. Specifically, a farmer-owned reserve program for *wheat* is mandated, but the terms and conditions are essentially identical to the program announced by the Administration in April 1977 using existing legal authorities. Farmers are encouraged to hold wheat off the market until prices rise to at least 140 percent (the minimum can be set between 140 and 160 percent) of the loan level (for the 1978 loan of \$2.35, this is \$3.29 to \$3.76 per bushel). The Secretary may call the loans when the market price rises above 175 percent of the loan level (\$4.11 per bushel). The Secretary is also authorized to provide incentives for storage—payments to producers which may be terminated when the minimum price trigger is reached. Waivers or adjustments of interest charges on the extended loans may also be used.

The minimum amount of the reserve is specified at 300 million bushels (8.16 million metric tons MMT) and the maximum is 700 million bushels (19.1 MMT). The maximum is adjustable depending on the outcome of the international grains agreement negotiations now underway in the International Wheat Council.

The bill also authorizes the Secretary to establish a similar reserve for feed grains. The Administration announced implementation of such a reserve (using existing authority) on August 29, 1977.<sup>17</sup> A feed grain reserve of 17-19 MMT is planned, with a minimum release price of 125 percent of the loan level (for corn, \$2.50). The loans are subject to call when the price reaches 140 percent of the loan level (\$2.80 for corn).

Through provisions of the bill, the President is encouraged to work with other nations to develop an international system of food reserves to provide for humanitarian food relief needs. At the same time the feed grain reserve was announced, the Administration also announced its intention to request Congressional approval of a 6 MMT food grain reserve to be used for international emergencies. It would also serve as part of any required holdings agreed to in an international grains agreement. The bill sets the Commodity Credit Corporation (CCC) resale price at 150 percent of the loan level when a producer-held reserve is in effect. Otherwise, the resale price is 115 percent of the loan level. This requirement is a change from previous legislation and a more severe restriction on the use of CCC-acquired grain.

The plan is to have a 30-35 MMT managed grain reserve composed of producer-held stocks (8.16 MMT wheat and rice and 17-19 MMT feed grains), the 6 MMT in the International Emergency Food Reserve, plus any CCC holdings (primarily 1976 wheat and rice) acquired through the loan program.

The formation of a *managed* reserve with *specific operating rules* changes the structure of national stockholding from that of the past quarter-century. The intent is to establish a price corridor (between the loan level and the release price) while avoiding the problem of large stocks "overhanging" the market and chronically depressing prices as occurred in the past. The likelihood of extreme grain price runups, such as those that occurred following 1972, appears much reduced. But price increases of 40-50 percent are still quite possible (before the release prices for both the producer-held reserve and CCC acquired grain are reached).

Several research issues arise from these procedures, and little has yet been done to explore them fully. Will this structure result in price moderation, but at relatively low levels? How will private stockholding be affected? The release price triggers put a ceiling on feed costs to livestock producers. What are the stability implications for the livestock sector—overstimulation, and further accentuation of the cycle? As the domestic reserves become linked to international reserves and markets, how will these closer ties affect U.S. agriculture? These are but some of the questions which will need our research attention.

<sup>16</sup> For a discussion of "slippage" in past programs, see (7)

<sup>17</sup> See "World Food Security and Set-Aside Plans," press release—Office of the White House Press Secretary, Aug. 29, 1977.



## DOMESTIC AND FOREIGN FOOD ASSISTANCE

The Food Stamp Program (FSP) was extended by the new bill and continues to represent this Nation's basic public policy instrument for raising the level of nutritional intake among the poor. Therefore, it is legitimately considered as a major component of the food and agricultural policy statement. The program, made permanent by the Food Stamp Act of 1964, has been designed to provide low-income households the food buying income necessary to purchase a nutritionally adequate diet through regular market channels. Since its earliest days, the program has also had the support of farm income as a companion goal. A major research question, still largely unanswered, relates to how successful the program has been in achieving its dual objectives.

FSP reforms embodied in the 1977 legislation relate almost entirely to changes in the institutional rules which specify how, within the rather broadly stated objective, the program will be operated. The longer term effects of these revisions on program participation, costs, and diets of low-income people are uncertain at this point. In all likelihood, participation will increase. The Congressional Budget Office estimates that as many as 2.1 million more eligible participants will enter the program. At the same time, tightened eligibility requirements and more stringent constraints on asset-held wealth are expected to make ineligible about 1.3 million participants with incomes above the poverty line.

Eligibility for program participation is more clearly defined in the 1977 act than has previously been the case. While income continues to be the most basic eligibility criterion, the intent of the new legislation is to tighten program administration, reduce fraud, and eliminate the "nonneedy" from the program. Participation will be limited to those households with an adjusted income (the "net" food stamp income) at or below the poverty level. The deductions system used to establish net income has been simplified.

The 1977 legislation moves the provision of aid away from the philosophical grant of in-kind aid to more nearly a simple transfer-of-cash assistance. This transition was accomplished by eliminating the requirement that most participants pay at least some cash as a condition for participation (EPR). Under the pre-EPR law, the total value of the stamp allotment was determined by household size only. Household income was used to determine what *portion* of the total allotment had to be paid for by the recipient household. For example, all eligible households with four members were authorized to obtain \$170.00 worth of coupons per month. Four-person households with a net food stamp income of \$100 per month were required to pay \$25 for the \$170 worth of stamps. Under the new legislation, each eligible household will simply receive, free of any charge, the difference between the total value of the authorized

allotment and 30 percent of its net income. Thus, households with \$100 per month net income will receive \$140 worth of free stamps (\$170 minus \$30).

This reform provision will likely have a long-term impact on the food system. Elimination of the purchase requirement will almost certainly reduce the food buying effectiveness of the bonus stamp transfer (15). Other things being equal, the amount of cash income available for the purchase of products other than food will increase for most participants. Thus, some households who have been participating in the program (pre-EPR) will likely spend less on food for home consumption. The overall impact of EPR on *total* food expenditures is, however, less clear. If participation increases, as some predict, total expenditures for food could be largely unaffected by the change.

Perhaps just as importantly, EPR significantly reduces the "targeted" nature of the program. Forty percent fewer stamps will be issued. And a major policy lever that can be used to influence directly the food purchasing behavior of low-income households is effectively eliminated.

Without the purchase requirement, the stage appears set for making complete the transition to a simple cash transfer. Legislation has already been introduced which would eliminate the program as part of the President's "Welfare Reform" proposal. The implications of such a change for the food policy process, the Agriculture Department, and agricultural producers are unclear. The FSP currently accounts for approximately 40 percent of the USDA budget. In recent years, effective coalitions of producer, consumer, and labor interests were formed to obtain mutually desired farm and food assistance legislation. Some political leaders have stated that the absence of the FSP from the USDA budget would make it significantly more difficult to obtain "favorable" price and income legislation for the agricultural production sector.

The debate which accompanied the passage of these 1977 reform provisions clearly indicated the philosophical disagreements and, therefore, the political difficulties encountered in the development of public programs with multiple national objectives. The debate on the House floor, in particular, highlighted the need for additional social science research in the food policy area. While there has been some good research on particular program issues, little has been done to develop the kind of an analytical system needed to evaluate the impact of program changes *prior* to their adoption. Without such a capability, the policy debate can be expected to flounder as it reaches a compromise.

Consider the provisions which place ceilings on program costs. In an effort to hold program costs close to those anticipated for 1977, expenditure ceilings of \$5.847 billion in FY78, \$6,159 billion in FY79, \$6.189 billion in FY80 and \$6.236 billion in FY81 were made part of the law. These provisions were adopted largely because there was no consensus judgment by the



analysts on what effect EPR would have on program participation and costs. In the absence of such basic economic intelligence, policymakers spent much time discussing the "possibilities."

Research issues are also highlighted by the foreign food assistance provisions of the new bill. The specific changes in P.L. 480 were not major. The level of funding was increased slightly and an attempt was made to increase the ease and flexibility of program management and to reduce the potential for abuse (such as recent allegations concerning rice shipments emerging from the Korean influence investigation).

There is, however, a widespread and growing opinion that all the Nation's food aid and development assistance programs should be reevaluated. The President's inclusion of world hunger as a part of the Administration's human rights policy provides impetus for such a reappraisal. Furthermore, recent statements by both research scientists and rather diverse political interest groups appear to indicate increased public pressures for the development of an integrated national nutrition policy: a policy statement which will ultimately provide the basis for development of the farm programs. Such a policy orientation will make it increasingly more important for agricultural policy scientists to improve their capability for analyzing the agricultural production implications of policy interventions at the *food consumption* end. If the United States again enters a period of overproduction, there will be a natural inclination, and pressure from the farm sector, to use these food assistance programs as vehicles for surplus disposal. Given current provisions and moods, this method for surplus disposal will be more difficult.

## SUMMARY

The basic premise of this article is that the newly enacted 1977 food and agricultural legislation poses a host of research issues. Many of them have existed for some time and the new act merely reemphasizes their importance. Others are new, resulting from the act itself. Still other related issues will emerge.

A second premise is that the longer term impacts of the legislation on the food and fiber system are largely unstudied. The policy process, we believe, is not conducive to such prior analysis as few proposals emerged intact. Most were changed as a result of compromises made necessary by the policy process itself.

We suggested several areas of the legislation having potentially significant impacts. The longer term structural implications for the farm sector are especially noted and a possible scenario is developed to illustrate and to underscore the need for economic research. A scenario could be envisioned whereby all the programs operating together could ultimately produce what has been referred to as a "Public Utility Agriculture." It is,

therefore, argued that the long term *cumulative* effect of these provisions should be studied, rather than those of each provision independently.

The price support loan, the target price/deficiency payment, the disaster payment, and the grain reserve programs may be conceptualized as operating together as illustrated in figure 4.

- The price support loan program defends a price minimum which prevents economic disaster for producers due to adverse market conditions. The low yield and prevented planting provisions of the disaster program transfer to society a large part of the risks due to "acts of God."
- Farmers are guaranteed minimum income protection through the target prices, indexed to keep payment levels in line with cost of production.

Thus, through these programs society has effectively assumed a large portion of the economic and natural disaster risk of farming, covering a relatively large share of total cost of production.

- The grain reserve release prices and the CCC minimum release price effectively place a cap or ceiling on commodity prices but at levels well above the price supports. Product prices are thus generally constrained in movement to the price corridor bounded by the loan level and first release price trigger of the reserve. While much of the "downside" risk has been removed, the topside cap means the "big payoff" prices, such as in 1973-74, are also effectively eliminated.

Given the program structures noted above, a major research issue relates to the consequences implied by the "cost of production" concept. In the act, a *national average cost of production* rather than some differentiation based on farm size or other criterion is used to determine the income support. The current farm sector size structure consists of relatively few large firms producing most of the Nation's farm produce. If these firms are the efficient relatively low-cost producers shown by the cost distribution data, the target price levels will allow these producers to secure wind-fall gains. The smaller, relatively higher cost producers may not be substantially assisted by the program, depending upon their actual cost level.

The large producers may be expected to capitalize the gain, thus bidding up the price of production assets, namely land. As land prices increase, cost situations for the smaller producers will deteriorate relative to the target price (which conceptually will not reflect the land price increases). (But, landowners, regardless of size, benefit from the asset value increase.) It will become more difficult for new producers to enter. And it will become more difficult to raise the capital required to secure the production assets (land) needed to have a viable operation. The long-term trend toward fewer and larger farms would be continued, as resources of the exiting farmers would be assumed by existing (not new) producers.

PRICE

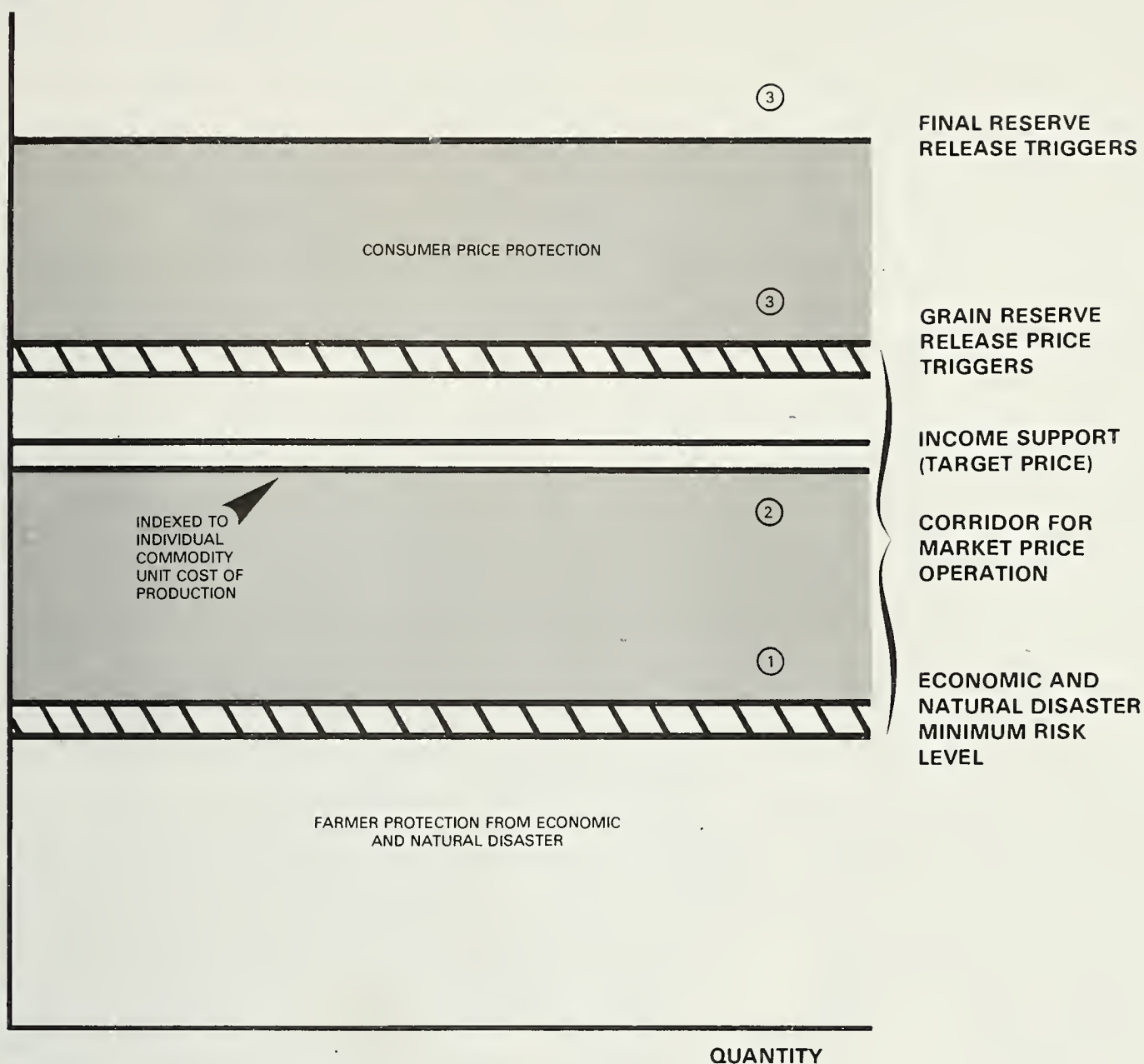


FIGURE 4.  
MAJOR PRODUCTION AND MARKETING PROVISIONS OF  
FOOD AND AGRICULTURE ACT OF 1977

Other questions relate to the impacts of this stability on the livestock sector, on grain producers, and on consumer prices. What happens when the indexed target prices eventually reach the release prices? Does society's assumption of much of the downside economic and natural risk mean society will also want to regulate the short-run profit potential from farming? Could we eventually have a "public utility" agriculture?

Few of the research issues raised in this article are new. They are, however, reemphasized by passage of the Food and Agriculture Act of 1977. Once every 4 years or so, the Congress must consider seriously what role the American people will play in regulating and otherwise influencing the food system. Those of us involved in food policy research are challenged to use the years in between to evaluate the results of their compromises.





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